

Appl. No. 10/516,639
Amdt. Dated Jan. 12, 2006
Reply to Office Action of Dec. 2, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1. (Currently Amended) Integrated communication and power system, comprising:

at least one first transformer located on shore, at least one second transformer located offshore, at least four single conductors connecting the first transformer with the second transformer, said at least four single conductors conducting electric power and communication signals, wherein four of said at least four single conductors are arranged in pairs and conduct electric power, said pairs being galvanically insulated from each other, and the communication signals being conducted in one conductor of at least one said pair, and wherein first transformer filters are coupled to said first transformer and second transformer filters are coupled to said second transformer.

Claim 2. (Previously Presented) The system according to claim 1, wherein the at least four single conductors form at least two pairs in a double single phase quad arrangement.

Claim 3. (Canceled)

Claim 4. (Previously Presented) The system according to claim 1, wherein said at least four single conductors are in a substantially fixed radial position relative to each other in a length of a cable.

Claim 5. (Canceled)

Claim 6. (Previously Presented) The system according to claim 1, wherein said second transformer has a plurality of secondary windings.

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Claim 7. (Previously Presented) The system according to claim 6, wherein said plurality of secondary windings of said second transformer each have a filter.

Claim 8. (Previously Presented) The system according to claim 6, wherein an offshore control unit is fed from said secondary windings.

Claim 9. (Previously Presented) The system according to claim 1, wherein said communication signals are conducted from one conductor in each of said pairs.

Claim 10. (Previously Presented) The system according to claim 1, wherein said at least four single conductors are insulated copper lines and integrated into a subsea cable.

Claim 11. (Currently Amended) A power and communications system for offshore installations, comprising:

an onshore power and communication installation coupled to an onshore multi-winding load-balancing transformer;

an offshore power and communication installation coupled to an offshore multi-winding load-balancing transformer;

at least one control unit coupled to said offshore multi-winding load-balancing transformer;

a plurality of single insulated conductors housed within a core and coupled on a first end to said onshore multi-winding load-balancing transformer and coupled on a second end to said offshore multi-winding load-balancing transformer, wherein said single insulated conductors housed within a core conducts power;

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at least one single insulated conductor proximate said core and coupled on a first end to said onshore power and communication installation and coupled on a second end to said offshore power and communication installation, wherein said at least one single insulated conductor conducts communications; and

wherein said plurality of single insulated conductors housed within a core and said at least one single insulated conductor proximate said core form a subsea cable.

Claim 12. (Canceled)

Claim 13. (Previously Presented) The system according to claim 11, wherein said onshore multi-winding load-balancing transformer comprises an onshore multi-phase primary winding and an onshore multi-phase secondary winding.

Claim 14. (Previously Presented) The system according to claim 13, wherein each of said onshore multi-phase secondary windings has a filter.

Claim 15. (Previously Presented) The system according to claim 11, wherein said offshore multi-winding load-balancing transformer comprises an offshore multi-phase primary winding and a plurality of offshore single phase secondary windings.

Claim 16. (Previously Presented) The system according to claim 15, wherein each of said offshore single phase secondary windings has a filter.

Claim 17. (Previously Presented) The system according to claim 15, wherein each said offshore multi-phase primary winding has a filter.

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Claim 18. (Previously Presented) The system according to claim 11, wherein there are three single insulated conductors housed within said core forming a three phase power connection.

Claim 19. (Previously Presented) The system according to claim 11, wherein a radial distance between said single insulated conductor and said plurality of single insulated conductors housed within a core is optimized for communications.